

## §21.118

and qualifications of the engineer making the survey, must be supplied to the Commission.

(b) The owner of the antenna structure should locate and construct such structure as to avoid making them hazardous to air navigation. (See part 17 of this chapter for provisions relating to antenna structures.) Such installation shall be maintained in good structural condition together with any required painting or lighting.

[44 FR 60534, Oct. 19, 1979, as amended at 61 FR 4365, Feb. 6, 1996]

### §21.118 Transmitter construction and installation.

(a) The equipment at the operating and transmitting positions shall be so installed and protected that it is not accessible to, or capable of being operated by, persons other than those duly authorized by the licensee.

(b) In any case where the maximum modulating frequency of a transmitter is prescribed by the Commission, the transmitter shall be equipped with a low-pass or band-pass modulation filter of suitable performance characteristics. In those cases where a modulation limiter is employed, the modulation filter shall be installed between the transmitter stage in which limiting is effected and the modulated stage of the transmitter.

(c) Each transmitter employed in these services shall be equipped with an appropriately labeled pilot lamp or meter which will provide continuous visual indication at the transmitter when its control circuits have been placed in a condition to activate the transmitter. Such requirement will not be applicable to MDS response stations or MDS booster stations authorized pursuant to §21.913(e). In addition, facilities shall be provided at each transmitter to permit the transmitter to be turned on and off independently of any remote control circuits associated therewith.

(d) [Reserved]

(e) At each transmitter control point the following facilities shall be installed:

(1) A carrier operated device which will provide continuous visual indication when the transmitter is radiating, or, in lieu thereof, a pilot lamp or

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meter which will provide continuous visual indication when the transmitter control circuits have been placed in a condition to activate the transmitter.

(2) Facilities which will permit the operator to turn transmitter carrier on and off at will.

(f) Transmitter control circuits from any control point shall be so installed that grounding or shorting any line in the control circuit will not cause the transmitter to radiate: *Provided, however*, That this provision shall not be applicable to control circuits of stations which normally operate with continuous radiation or to control circuits which are under the effective operational control of responsible operating personnel 24 hours per day.

[44 FR 60534, Oct. 19, 1979, as amended at 52 FR 37783, Oct. 9, 1987; 63 FR 65101, Nov. 25, 1998]

### §21.119 [Reserved]

### §21.120 Authorization of transmitters.

(a) Except for transmitters used at developmental stations, each transmitter shall be a type which has been certificated by the Commission for use under the applicable rules of this part.

(b) Any manufacturer of a transmitter to be produced for use under the rules of this part may request certification by following the applicable procedures set forth in part 2 of this chapter. Type accepted and notified transmitters are included in the Commission's Radio Equipment List.

(c) Certification for an individual transmitter may also be requested by an applicant for a station authorization, pursuant to the procedures set forth in part 2 of this chapter.

[44 FR 60534, Oct. 19, 1979, as amended at 49 FR 3999, Feb. 1, 1984; 50 FR 7340, Feb. 22, 1985; 58 FR 49226, Sept. 22, 1993; 59 FR 19645, Apr. 25, 1994; 61 FR 26676, May 28, 1996; 63 FR 36603, July 7, 1998]

### §21.121 [Reserved]

### §21.122 Microwave digital modulation.

(a) Microwave transmitters employing digital modulation techniques and operating below 15 GHz shall, with appropriate multiplex equipment, comply with the following additional requirement: The bit rate, in bits per second,